NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(pursuant to NAC 445A.874)

Permittee Name:	The Boeing Company, Santa Susan Field Laboratory
Permit Number:	Underground Injection Control #UNEV97200
Permit Action:	Renewal
Facility:	former Nevada Field Laboratory, Area C

A. Description of Discharge

Location: The injection/recharge trenches are located at the former Nevada Field Laboratory, Area C at 2700 Right Hand Canyon Road, approximately twenty miles northeast of Reno, Nevada, in the SE¼ of Section 18, T22N, R22E, MDB&M, Washoe County. Injection of treated groundwater is authorized into four infiltration/recharge trenches.

Characteristics: All injectate is groundwater that has been treated to remove perchlorate and volatile organic contaminants trichloroethylene (TCE), 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113) and 1,2-dibromotetrafluoroethane (Halon 2402). Following treatment, the injectate meets primary drinking water standards.

B. Synopsis

From 1962 to 1970, Rocketdyne, then a division of North American Aviation, operated a rocket engine testing facility known as the Nevada Field Laboratory (NFL). Rocketdyne, formerly a division of Rockwell International, is now a part of the Boeing Company. Three areas of the former NFL, "B", "C", and "D", were used for rocket engine testing. The subject of this UIC permit is Area C, located along Right Hand Canyon Road. As part of the rocket testing program at this location, solvents were used to clean equipment. At Area C, solvents have been detected in groundwater in the immediate area of the former test facility. Perchlorate, a chemical found in solid rocket propellant, was used at the former Area C test stand area, and has been found in soil and groundwater in the immediate vicinity of the former Area C test stand area. In the seventies, the NFL property was sold and subdivided into individual residential parcels.

The site geology consists of an alluvium upper portion which overlies a stretch of volcanic bedrock. Groundwater exists in both formations. The contamination has penetrated the groundwater in the alluvium and has subsided into fractures of the bedrock. Extraction wells were constructed to penetrate both formations such that contaminated groundwater is extracted from both formations.

Depth to water ranges from approximately 16-37 feet below ground surface. The average local gradient is estimated at 0.0012 ft/ft in the northwesterly direction. The hydraulic conductivity is approximately 0.0004 - 0.018 cm/sec in the alluvial aquifer and approximately 0.0007 - 0.007 cm/sec in the bedrock aquifer.

The current remediation system consists of four extraction wells (CEX-1, CEX-3, CEX-6, and CEX-7) where groundwater is pumped out and sent by a pipeline to the treatment

building. There, the water is treated for VOCs using four liquid-phase activated carbon units in parallel, and further treated for perchlorate using three ion-exchange resin units in series. The treated groundwater is then distributed via gravity to three injection trenches, each 3 feet wide, 10 - 12.5 feet deep, and approximately 205 - 260 feet long.

There are no public water supply wells within the project area; however, a few domestic wells are present. Groundwater modeling has demonstrated that the impact of the remediation system should not affect produced water from domestic water wells. Nearby domestic wells are sampled annually to demonstrate the absence of target constituents. Twenty-eight wells lie within the one-mile area of review.

C. Receiving Water Characteristics:

The receiving waters have demonstrated the following concentrations:

Constituent	µg/L (ppb)
Trichloroethylene (TCE)	71
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	15
Dibromotetrafluoroethane (Halon 2402)	15
Nitrate as N	7,100
TDS	830,000

Depth to groundwater in the area of the injection/recharge trench system is approximately 37 feet.

D. Procedures for Public Comment

Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada is being sent to the Reno Gazette-Journal for publication no later than November 20, 2008.

The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

E. Proposed Determination

The Division has made the tentative determination to modify the injection permit.

F. Effluent Limitations and Special Conditions

See part 1.A of the permit.

G. Rationale for Permit Requirements

Verification that the quality of water injected remains constant and does not adversely affect the existing hydrologic regime.

Prepared by: UIC Staff
October 16, 2008